

Professional Summary:

Mr. Calder is a licensed Electrical Engineer and has worked for over twenty years in the electrical engineering profession designing power distribution systems including medium voltage substations, switchgear, motor control centers, and feeds to individual building loads. During his career he has had the opportunity to manage and oversee the installation of numerous industrial electrical projects as well as test and trouble shoot many installation issues.

Mr. Calder's strong background in design, construction support, inspections and operations has provided him with a keen understanding of electrical systems and causes of potential failures. Investigations of a wide variety of industrial incidents have provided a solid knowledge of incident investigation procedures.

Mr. Calder was additionally an expert in safe operation of gas fired carbon electrode baking furnaces having been the global chairman of a carbottom baking furnace process safety/improvement team for seven years. Process changes were developed and implemented that were successful in bringing an end to a history of baking furnace unplanned pressure releases/explosions.

Mr. Calder has investigated a wide variety of electrical systems and investigation categories including audio/visual equipment, code compliance, commercial and residential fires of electrical origin, lighting damage, solar panel failures/fires, fire alarm system failure, and electrical failures of other causes during the past 3 years with EFI Global.

In the past year several projects involving building consulting have been performed to assist clients with evaluation of repair/replacement proposals. Additionally, wipe and tape sampling has been performed in fire damaged locations to provide data for making recommendations for soot and smoke damaged equipment cleaning.

Licenses and Certifications:

Professional Engineer, Arkansas Board of Registration for PE & LS, 6302
Master Electrician, State of Arkansas Board of Electrical Examiners, M-2778
Professional Engineer, Kentucky Board of Engineers and LS, 36386
Professional Engineer, Mississippi Board of Licensure for PE's, 31699
Professional Engineer, Tennessee Board of Architects and Engineers, 124896
Professional Engineer, Alabama Board of Licensure, 40124-E
Professional Engineer, Oklahoma State Board of Licensure for PE's, 33119
Professional Engineer, Kansas State Board of Technical Professionals, 28934
Professional Engineer, Missouri Division of Professional Registration, PE-2022011955
Professional Engineer, Texas Board of Professional Engineers, PE 144574

Professional Engineer, Oregon Board of Registration for PE & LS, 100459PE

Professional Engineer, Washington Board of Registration for PE & LS, 22010389

Professional Engineer, Louisiana Professional Engineering Board PE.0047018

Project Experience:

Tokai Carbon, Ozark, AR

Design and Installation of 54 MVA Substation

Project to provide a 54 MVA, 23 kv feed and substation for two 23kv to DC transformers/rectifiers.

SGL Carbon, Ozark, AR

Design and installation of 9 DC furnaces and 240ka aluminum buss

Project to provide 9 high temperature electrical resistance DC furnaces and corresponding 200v, 240 ka buss system requiring focus on magnetic forces impacting the parallel DC bus installation.

SGL Carbon, Ozark, AR

Design and installation of multiple 1600a – 3200a, 480v switchgear, generator backups with transfer switches, and 480v/120v distribution panels

Project to provide power to all cooling systems, control systems, cranes, processing equipment, etc in 3 large manufacturing buildings.

SGL/Tokai Carbon, Ozark, AR

Fire Incident Investigations

Conducted multiple fire incident investigations within the facility to identify root causes and implement corrective actions to prevent reoccurrence.

EFI Global, LLC, Site Investigations in various locations in the registered states. (Feb 2021 – Present)

Conducted site exams and lab exams as needed to determine causes of loss and failures from electrical events related to lighting, voltage transients, and fires. The scientific method was used to determine all possible hypotheses for the event and then use data/observations to attempt to eliminate all the hypotheses based on available evidence and findings.

Specialized Education:

Electrical Transmission & Distribution Safety/Exam, Dec 2018

Power Factor in Electrical Energy Management/Exam, Dec 2018

Lightning & Static Electricity Protection, Dec 2018

Controlling Electrical Hazards, Dec 2022

Electrical Distribution Systems, May 2022

Half Century Transformers, SD Myers 21 hrs, Dec 2013

National Electrical Code Review/Exam June 2022 – Renewal training/exam every 3 years since 1986

Arkansas Engineering Law, Nov 2012

Louisiana Code of Ethics Dec 2022

CFI Trainer – Series of fire investigations topics following NFPA 921 and NFPA 1033. – Jan 2023

EFI Training – Tape and Wipe sample training for determination of corrosive soot and smoke contamination of equipment – June 2023

Professional Experience:

EFI Global, Inc, Forensic Electrical Engineer, Feb 2021 - present
Tokai Carbon, Plant Manager, 2018 - 2020
SGL Carbon, Engineering/Maintenance/Production Manager, 2013 – 2017
SGL Carbon, Global Projects (Malaysia, Germany, Spain, US, Austria), 2004 – 2012
SGL Carbon, Engineering/Maintenance Manager, 1987 – 2003
Great Lakes Carbon, Process Engineer, 1980 - 1986

Education:

Bachelor of Science, Electrical Engineering, University of Arkansas, Fayetteville, AR, 1980